GIBBERELLIC ACID REDUCES SUSCEPTIBILITY OF CITRUS FRUIT TO TEPHRITID FRUIT FLIES

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The naturally-occurring plant growth regulator, gibberellic acid (GA), has been used for many years to delay the onset of peel senescence of citrus fruit and to inhibit spontaneous fruit drop. We have found that its use also is beneficial in extending the natural resistance of citrus fruit to tephritid fruit flies, including the Caribbean fruit fly (*Anastrepha suspensa*).

Currently, approximately 92% of Florida grapefruit are shipped to Japan using the Caribbean Fruit Fly Protocol fly-free certification approach, rather than by use of postharvest treatments (cold treatment or methyl bromide fumigation). Because of increased fruit susceptibility to the Caribbean fruit fly late in the season, the Standard Season (December 20 - April 15) certification requirements are more rigorous than the Early Season (pre December 20) requirements.

Many growers cannot meet the requirements of the Standard Season Protocol, which includes a 1/2 mile host plant-free buffer zone, whereas the Early Season Protocol requires only a 300 foot buffer zone. GA treatment is currently being evaluated as a means to help growers achieve fruit fly-free certification of mid-season Florida grapefruit. The intent is to use a prescribed GA treatment to extend the early-season properties of the fruit that afford resistance, and thereby allow an extension of the early-season Caribbean Fruit Fly Protocol certification provisions, allowing continued use of a 300 foot host plant free buffer zone through February 28th. This could permit many growers to achieve certification beyond the normal end of their harvest season as an alternative to removing host plants up to 1/2 mile from their groves.